

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-18. (canceled)

19. (currently amended) A method of assembling tyres for vehicle wheels with an apparatus for assembling vehicle tires, the apparatus including a primary drum and a single auxiliary drum, the method comprising:

disposing a carcass structure on a primary drum by assembling component parts of the carcass structure on the primary drum;

disposing a belt structure on an the single auxiliary drum of the apparatus;

picking up the belt structure from the auxiliary drum to transfer the belt structure to a position coaxially centered with respect to the carcass structure; and

applying a tread band onto the belt structure;

wherein the carcass structure comprises at least one carcass ply in engagement with annular anchoring structures axially spaced apart from each other,

wherein the belt structure comprises at least one belt layer,

wherein applying the tread band is carried out by winding up at least one continuous strip element of elastomer material in contiguous circumferential coils around the belt structure;

wherein application of the tread band is carried out before picking up the belt structure from the auxiliary drum;

wherein during disposing the belt structure on the auxiliary drum, the auxiliary drum is arranged in a coaxial-alignment relationship with the primary drum and interacts with devices for application of the belt structure;

wherein after disposing the belt structure and before winding up said at least one continuous strip element of elastomer material, a step is carried out of moving the auxiliary drum away from a vertical plane containing the rotation axis of the primary drum towards a delivery member that feeds the strip element forming the tread band around the belt structure with the auxiliary drum positioned away from the vertical plane containing the rotation axis of the primary drum, starting from said coaxial-alignment relationship with the primary drum; and

further comprising the step of moving the auxiliary drum away from said delivery member to position the auxiliary drum again in coaxial alignment relationship with respect to the primary drum, once application of the tread band has been completed.

20. (cancelled)

21. (previously presented) The method of claim 19, wherein the at least one strip element is fed from at least one delivery member disposed close to the belt structure, simultaneously with winding up the at least one strip element around the belt structure.

22. (previously presented) The method of claim 21, wherein feeding the at least one strip element is carried out by extrusion through the at least one delivery member.

23. (currently amended) The method of claim 21, further comprising:

giving the auxiliary drum carrying the belt structure a circumferential-distribution rotary motion around a geometric rotation axis of the auxiliary drum, so that the at least one strip element is circumferentially distributed around the belt structure; and

carrying out controlled relative transverse-distribution displacements between the auxiliary drum and the at least one delivery member, so that the at least one strip element forms a plurality of coils disposed in mutual side-by-side relationship to define the tread band;

wherein giving the auxiliary drum the circumferential-distribution rotary motion and carrying out the controlled relative transverse-distribution displacements are carried out concurrently with winding up the at least one strip element.

24. (previously presented) The method of claim 23, wherein the controlled relative transverse-distribution displacements are carried out by movement of the auxiliary drum.

25. (previously presented) The method of claim 23, wherein the circumferential-distribution rotary motion and the controlled relative transverse-distribution displacements are carried out by an actuating assembly engaging the auxiliary drum.

26. (cancelled)

27. (cancelled)

28. (cancelled)

29. (previously presented) The method of claim 19, wherein the belt structure transferred to the position coaxially centered with respect to the carcass structure is coupled with the carcass structure following shaping the carcass structure into a toroidal configuration.

30. (currently amended) An apparatus for assembling tyres for vehicle wheels, comprising:

a primary drum;

~~an~~ a single auxiliary drum;

devices for application of belt layers on the auxiliary drum to form a belt structure;

at least one unit for applying a tread band onto the belt structure; and

a transfer member;

wherein the primary drum is arranged to support a carcass structure,

wherein the carcass structure comprises at least one carcass ply in engagement with annular anchoring structures axially spaced apart from each other,

wherein the auxiliary drum is set to carry the belt structure,

wherein the auxiliary drum is arranged in coaxial-alignment relationship with the primary drum;

wherein the transfer member moves the belt structure from the auxiliary drum to the primary drum,

wherein the at least one unit for applying the tread band comprises at least one delivery member,

wherein the at least one delivery member applies the tread band by laying down at least one continuous strip element of elastomer material in contiguous circumferential coils onto the belt structure;

an actuating assembly set to drive the auxiliary drum in rotation around a geometric axis thereof so that said strip element is circumferentially distributed on the belt structure, and to cause controlled relative displacements between the auxiliary drum and said at least one delivery member for distribution of said strip-like element so as to form said coils disposed in mutual side by side relationship to define the tread band;

wherein said actuating assembly is arranged to cause translation of the auxiliary drum, starting from a position at which the auxiliary drum interacts with the devices for applying the belt layers, away from a vertical plane containing the rotation axis of the primary drum towards said at least one delivery member, which feeds the strip element forming the tread band onto the belt structure with the auxiliary drum disposed away from a vertical plane containing the rotation axis of the primary drum, and to subsequently move the auxiliary drum away from said delivery member to position it again in coaxial-alignment relationship with respect to the primary drum; and

wherein the apparatus includes at least one device that disposes the carcass structure on the primary drum by assembling component parts of the carcass structure on the primary drum.

31. (previously presented) The apparatus of claim 30, wherein the at least one delivery member comprises at least one extruder.

32. (cancelled)

33. (previously presented) The apparatus of claim 30, wherein the actuating assembly operates on the auxiliary drum to move the auxiliary drum relative to the at least one delivery member.

34. (previously presented) The apparatus of claim 30, wherein the actuating assembly is integrated into a robotized arm engaging the auxiliary drum.

35-55. (cancelled)

56. (previously presented) The method of claim 19, wherein applying the tread band by winding up at least one continuous strip element of elastomer material in contiguous circumferential coils around the belt structure includes varying an overlapping amount of the contiguous coils to modulate the thickness of the tread band.

57. (previously presented) The apparatus of claim 30, wherein the at least one delivery member applying the tread band by laying down at least one continuous strip element of elastomer material in contiguous circumferential coils onto the belt structure includes varying an overlapping amount of the contiguous coils to modulate the thickness of the tread band.

58. (new) The apparatus of claim 30, wherein the at least one device that disposes the carcass structure on the primary drum by assembling component parts of the carcass structure on the primary drum includes a feeding line disposed adjacent the primary drum.